ous features that are described in the context of a single implementation can also be implemented in multiple implementations separately or in any suitable sub-combination. Moreover, although features may be described above as acting in certain combinations and even initially claimed as such, one or more features from a claimed combination can in some cases be excised from the combination, and the claimed combination may be directed to a sub-combination or variation of a sub-combination.

Similarly, while operations are depicted in the drawings in a particular order, this should not be understood as requiring that such operations be performed in the particular order shown or in sequential order, or that all illustrated operations be performed, to achieve desirable results. In certain circumstances, multitasking and parallel processing may be advantageous. Moreover, the separation of various system components in the implementations described above should not be understood as requiring such separation in all implementations, and it should be understood that the described program components and systems can generally be integrated together in a single software product or packaged into multiple software products.

References to "or" may be construed as inclusive so that any terms described using "or" may indicate any of a single, more than one, and all of the described terms. The labels "first," "second," "third," and so forth are not necessarily meant to indicate an ordering and are generally used merely to distinguish between like or similar items or elements.

Various modifications to the implementations described in this disclosure may be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other implementations without departing from the spirit or scope of this disclosure. Thus, the claims are not intended to be limited to the implementations shown herein, but are to be accorded the widest scope consistent with this disclosure, the principles and the novel features disclosed herein.

What is claimed is:

1. A cooling system for an electronic circuit package, comprising:

a heat transfer plate positioned in thermal contact with an electronic circuit package surface, wherein the heat transfer plate forms a bottom surface of an evaporative region of the cooling system;

a plurality of condensing tubes in fluid communication with, and extending away from, the evaporative region, such that the evaporative region and condensing tubes together form a single, uninterrupted, sealed enclosure, wherein each of the plurality of condensing tubes includes a plurality of grooves;

a fluid disposed within the sealed disclosure; and

a plurality of wicks, each wick positioned such that one end is in contact with the heat transfer plate and an opposite end extends into a proximal end of a corresponding condensing tube for a distance that is less than 5% of the length of the corresponding condensing tube.

2. The cooling system of claim **1**, wherein each wick comprises a multi-layer copper mesh.

3. The cooling system of claim **1**, wherein at a least a portion of each wick contacts the heat transfer plate.

4. The cooling system of claim **3**, wherein the portion of each wick in contact with the heat transfer plate is oriented substantially parallel to the heat transfer plate.

5. The cooling system of claim **3**, wherein the portion of each wick in contact with the heat transfer plate covers less than three-quarters of a cross sectional area of an end of a corresponding condensing tube.

6. The cooling system of claim **3**, wherein the portion of each wick in contact with the heat transfer plate substantially covers an end of its corresponding condensing tube and extends in a direction parallel to the heat transfer plate beyond an edge of the corresponding condensing tube.

7. The cooling system of claim **1**, wherein each wick comprises a metal mesh.

8. The cooling system of claim **1**, wherein the heat transfer plate comprises a plurality of fins extending away from the heat transfer plate within the sealed enclosure.

9. The cooling system of claim **8**, wherein the plurality of fins are arranged in an irregular fashion.

10. The cooling system of claim **9**, wherein the plurality of fins are arranged based on a variation in heat generation across the electronic circuit package surface in thermal contact with the heat transfer plate.

11. The cooling system of claim **1**, wherein at least a portion of the sealed enclosure is coated with a copper powder.

12. The cooling system of claim **11**, wherein the copper powder has a particle size of about 0.1 mm.

13. The cooling system of claim **11**, wherein the copper powder forms a coating having a thickness of about 0.3 mm.

14. The cooling system of claim **13**, wherein the copper powder coating coats a plurality of fins extending away from the heat transfer plate within the sealed enclosure.

15. The cooling system of claim **13**, wherein the copper powder coating coats at least one of the heat transfer plate and a surface of the evaporative region opposite the heat transfer plate within the sealed enclosure.

16. The cooling system of claim **11**, wherein the interiors of the condensing tubes are free from the copper powder coating.

17. The cooling system of claim **1**, wherein the condensing tubes are positioned about a perimeter of the sealed enclosure.

* * * * *